

We Claim:

1. A method for transmitting control information between a base station and one or more mobile stations in a wireless communication network, the method comprising:

5 modifying one or more prescribed fields in an existing control channel to carry express signaling information directly between the base station and at least one mobile station.

2. The method according to claim 1, wherein the express signaling information includes one or more identifiers, and wherein the one or more identifiers
10 include information selected from the group consisting of routing information and message type.

3. The method according to claim 2, wherein the routing information indicates the one or more mobile stations for which a transmission is intended.
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4. The method according to claim 3, wherein the transmission is for one mobile station and wherein the transmission is selected from the group consisting of a data transmission and a signaling transmission.

20 5. The method according to claim 3, wherein the transmission is simultaneously transmitted and intended for a plurality of mobile stations and wherein the transmission is selected from the group consisting of a data transmission and a signaling transmission.

25 6. The method according to claim 2, wherein the message type indicates a type of action to be carried out by a recipient mobile station.

7. The method according to claim 1, wherein the express signaling information includes message address information for a single mobile station.
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8. The method according to claim 1, wherein the express signaling information includes common message address information for a plurality of mobile stations.

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9. The method according to claim 8, wherein the express signaling information includes an identifier indicating a broadcast transmission to the plurality of mobile stations.

5 10. The method according to claim 8, wherein the express signaling information includes an identifier indicating a multicast transmission for a prescribed number of the plurality of mobile stations.

10 11. The method according to claim 1, wherein the express signaling information includes an identifier indicating available Walsh space for transmission of data between the base station and the one or more mobile stations.

15 12. The method according to claim 2, wherein a routing information identifier comprises an explicit set of bits transmitted in a frame of the existing control channel.

13. The method according to claim 1, wherein the existing control channel includes a message identification field and a control field.

20 14. The method according to claim 13, wherein the control field includes the express signaling information.

25 15. The method according to claim 14, wherein routing information for a transmission is derived via a cyclic redundancy check (CRC) calculation performed over the contents of the control field and a mobile station identifier.

16. The method according to claim 15, wherein the transmission includes the mobile station identifier, the CRC calculation, and the control field.

30 17. The method according to claim 15, wherein the transmission includes the CRC calculation and the control field, and wherein routing information is derived at a receiving mobile station by performing a CRC calculation on the received transmission together with the receiving mobile station's mobile station identifier.

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18. The method according to claim 14, wherein routing information for a transmission is derived via an logical exclusive OR operation performed on a mobile station identifier and a cyclic redundancy check (CRC) calculated on the contents of a control frame in the existing control channel.

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19. The method according to claim 13, wherein the message identification field comprises at least two parts, wherein a first part identifies a recipient mobile station for the transmission and wherein a second part indicates a message type.

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20. A method for transmitting control information between a base station and one or more mobile stations in a wireless communication network, the method comprising:

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modifying one or more prescribed fields in an existing control channel to carry one or more prescribed message identifiers between the base station and the one or more mobile stations,

wherein the one or more prescribed message identifiers comprise information selected from the group consisting of routing information, message type, control information, and a signaling message,

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whereby express signaling occurs directly between the base station and at least one mobile station.

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